

WHAT IS CLAIMED IS:

1. A computer implemented method, comprising,
using at least two of sets of parameters comprising rate
data and buffer size data to determine an operating condition
5 by selecting:

- 1) a buffer size based on the rate data; or
- 2) a rate based on the buffer size;

and

at a time-varying-signal decoder, maintaining encoded data
10 in a buffer in accordance with the operating condition and
decoding the encoded data from the buffer.

2. The method of claim 1 further comprising, receiving
the at least two sets of parameters at the time-varying-signal
15 decoder, wherein the time-varying-signal decoder determines the
operating condition.

3. The method of claim 2 wherein each set of parameters
also includes fullness data received at the time-varying-signal
20 decoder.

4. The method of claim 2 wherein the at least two sets
of parameters are determined by an encoder.

5. The method of claim 4 wherein the at least two sets of parameters are received in a stream header along with information indicating a total number of the sets.

5 6. The method of claim 1 wherein using at least two of sets of parameters to determine an operating condition includes selecting one of the sets.

10 7. The method of claim 1 wherein using at least two of sets of parameters to determine an operating condition includes interpolating between data points in at least two of the sets.

15 8. The method of claim 1 wherein using at least two of sets of parameters to determine an operating condition includes extrapolating from data points in at least two of the sets.

20 9. The method of claim 1 wherein selecting a buffer size based on the rate data comprises determining a buffer size that will approach a minimum loading delay.

10. The method of claim 1 wherein selecting a rate based on the buffer size comprises determining a minimum required peak transmission rate based on the buffer size.

11. The method of claim 1 wherein the operating condition changes at least once during communication of the encoded data to the buffer.

5 12. A computer implemented method, comprising,
at a time-varying-signal decoder, receiving at least two sets of parameters comprising rate and buffer size data;
using at least two of the sets of parameters to determine an operating condition by selecting:

10 1) a buffer size based on the rate data; or
2) a rate based on the buffer size;
maintaining encoded data in a buffer in accordance with the operating condition; and
decoding the encoded data from the buffer.

15 13. The method of claim 12 further comprising providing fullness data to the time-varying-signal decoder.

20 14. The method of claim 12 further comprising,
determining the at least two sets of parameters and providing them to the time-varying-signal decoder.

15. The method of claim 14 wherein the at least two sets of parameters are determined by an encoder.

16. The method of claim 15 wherein the at least two sets of parameters are received in a stream header along with information indicating a total number of the sets.

5 17. The method of claim 12 wherein using at least two of sets of parameters to determine an operating condition includes selecting one of the sets.

10 18. The method of claim 12 wherein using at least two of sets of parameters to determine an operating condition includes interpolating between data points in at least two of the sets.

15 19. The method of claim 12 wherein using at least two of sets of parameters to determine an operating condition includes extrapolating from data points in at least two of the sets.

20 20. The method of claim 12 wherein selecting a buffer size based on the rate data comprises determining a buffer size that will approach a minimum loading delay.

21. The method of claim 12 wherein selecting a rate based on the buffer size comprises determining a minimum required peak transmission rate based on the buffer size.

22. The method of claim 12 wherein the operating condition changes at least once during communication of the encoded data to the buffer.

5 23. A system for providing time varying signals, comprising:

an encoder that provides time-varying signals;

an encoder buffer and a decoder buffer that maintain the time-varying signals, the encoder buffer connected to the decoder buffer by a transmission medium;

10 a decoder that removes the time-varying signals from the decoder; and

a first mechanism that determines at least two of sets of parameters comprising rate data and buffer size data for maintaining the decoder buffer such that it does not overflow or underflow, and

15 a second mechanism that determines a size of the decoder buffer based on the rate data, or determines a rate of transferring data from the encoder buffer to the decoder buffer based on the buffer size data.

20 24. The system of claim 23 wherein the first mechanism that determines at least two of sets of parameters is incorporated in the encoder.

25

25. The system of claim 23 wherein the second mechanism is incorporated in the decoder.

26. The system of claim 23 wherein the first mechanism
5 that determines at least two of sets of parameters is incorporated in the encoder, the second mechanism is incorporated in the decoder, and wherein the encoder communicates the sets of parameters to the decoder.

10 27. The system of claim 26 wherein the encoder communicates the sets of parameters to the decoder via a stream header.

15 28. The system of claim 26 wherein the encoder identifies a total number of the sets of parameters.

29. The system of claim 23 wherein each set of parameters also includes fullness data received at the decoder.

20 30. The system of claim 23 wherein the second mechanism determines the size of the decoder buffer based on the rate data, or determines the rate of transferring data, by selecting one of the sets.

31. The system of claim 23 wherein the second mechanism determines the size of the decoder buffer based on the rate data, or determines the rate of transferring data, by interpolating between data points in at least two of the sets.

5

32. The system of claim 23 wherein the second mechanism determines the size of the decoder buffer based on the rate data, or determines the rate of transferring data, by extrapolating from data points in at least two of the sets.

10

33. The system of claim 23 wherein the second mechanism determines the size of the decoder buffer by determining a buffer size that will approach a minimum loading delay.

15

34. The system of claim 23 wherein the second mechanism determines the rate data by determining a minimum required peak transmission rate corresponding to a predetermined buffer size.

20

35. The system of claim 23 wherein the second mechanism determines a new size of the decoder buffer based on the rate data and time information.

25

36. The system of claim 23 wherein the second mechanism determines a new rate of transferring data based on the buffer size data size and time information.